

REMARKS

The Office Action dated April 1, 2009, has been received and carefully noted. The above amendments to the claims, and the following remarks, are submitted as a full and complete response thereto.

Claims 1-26 are currently pending in the application. By this Response, claims 1, 10, 13, 14, 17, 18, 21, 22, 25, and 26 have been amended to more particularly point out and distinctly claim the subject matter of the present invention. No new matter has been added. Support for the above amendments is provided in the Specification on at least at page 13, lines 26-30. Claims 7-9 were previously withdrawn from consideration by the examiner. Accordingly, claims 1-6 and 10-26 are respectfully submitted for consideration.

In view of the above amendments and the following remarks, Applicants respectfully request reconsideration and timely withdrawal of the pending rejections to the claims for the reasons discussed below.

Claim 22

As a threshold matter, Applicants respectfully submit that the Office Action fails to address claim 22 in the "Detailed Office Action" section. Accordingly, Applicants respectfully request that the Examiner issue a new non-final Office Action including a detailed status of claim 22, in addition to the other pending claims in the application.

Claim Rejections under 35 U.S.C. §103(a)

The Office Action rejected claims 1-2, 4, 17-18, 21, and 26 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over U.S. Patent No. 6,466,984 of Naveh (“Naveh”) in view of “Policy-Based Networking Architecture for QoS Interworking in IP Management, Scalable Architecture for Large-Scale Enterprise-Public Interoperation” of Blight (“Blight”), and U.S. Publication No. 2001/0032262 of Sundqvist, *et al.* (“Sundqvist”). The Office Action took the position that Naveh discloses all the elements of the claims with the exception of certain elements. The Office Action then cited Blight and Sundqvist as allegedly curing the deficiencies of Naveh. Applicants respectfully submit that said claims recite allowable subject matter for at least the following reasons.

Claim 1, upon which claims 2-5 are dependent, recites a system, which includes a controller configured to administrate multi-radio access mobile networks and to control a behavior of said multi-radio access mobile networks, where an information model is implemented in said controller which describes different Quality-of-Service mechanisms including attributes which are involved in each function under policy to represent manageable parameters of specific network implementations, wherein functions under policy include admission control for new radio access bearers and radio bearers. The system further includes a processor configured to form a set of policy rules based on the information model, wherein said set of rules defines actions to be executed in dependency of an occurrence of conditions, and a policy based management device configured to

receive said set of rules for the implementation thereof. The device includes a plurality of policy based radio resource management devices each configured to respectively manage said parameters of specific network implementations, and a translation function device configured to translate said rules into a form executable by said plurality of policy based radio resource management devices. The set of rules configure multiple radio technologies corresponding to the information model as used by the multiple radio technologies.

Claim 17 recites a system, which includes controlling means for administrating multi-radio access mobile networks and for controlling a behavior of multi-radio access mobile networks, where an information model is implemented in said control center means which describes different Quality-of-Service mechanisms including attributes which are involved in each function under policy for representing manageable parameters of specific network implementations, wherein functions under policy include admission control for new radio access bearers and radio bearers. The system further includes processing means for forming a set of policy rules based on said information model, wherein said set of rules defines actions to be executed in dependency of an occurrence of conditions, and policy based management device means for receiving said set of rules for the implementation thereof. The policy based management device means includes plurality of policy based radio resource management means each for respectively managing said parameters of specific network implementations, and a translation function means for translating said set of rules into a form executable by said plurality of

policy based radio resource management means. The set of rules configure multiple radio technologies corresponding to the information model as used by the multiple radio technologies.

Claim 18, upon which claims 19-20 are dependent, recites an apparatus, which includes a receiver configured to receive a set of rules defining actions to be executed in dependency of an occurrence of conditions, and a processor configured to implement the set of rules. The apparatus further includes a plurality of controller configured to perform policy based radio resource management and to respectively manage parameters of specific network implementations which concern functions including admission control for new radio access bearers and radio bearers, and a translator configured to translate the rules into a form executable by the plurality of controller. The set of rules configure multiple radio technologies corresponding to the information model as used by the multiple radio technologies.

Claim 21 recites an apparatus, which includes receiving means for receiving a set of rules defining actions to be executed in dependency of an occurrence of conditions, and implementation means for implementing the set of rules. The apparatus further includes a plurality of policy based radio resource management means for respectively managing parameters of specific network implementations which concern functions including admission control for new radio access bearers and radio bearers, and translation function means for translating said rules into a form executable by said plurality of policy based radio resource management means. The set of rules configure

multiple radio technologies corresponding to the information model as used by the multiple radio technologies.

Claim 22, upon which claims 23-24 are dependent, recites a method, which includes receiving a set of rules defining actions to be executed in dependency of an occurrence of conditions, and implementing the set of rules. The method further includes respectively managing parameters of specific network implementations which concern functions including admission control for new radio access bearers and radio bearers, and translating said rules into a form executable by a plurality of controller configured to perform policy based radio resource management. The set of rules configure multiple radio technologies corresponding to the information model as used by the multiple radio technologies.

Claim 26 recites a computer program embodied on a computer readable medium, the computer program being configured to control a processor to perform, receiving a set of rules defining actions to be executed in dependency of an occurrence of conditions, and implementing the set of rules. The computer program is further configured to control the processor to perform, respectively managing parameters of specific network implementations which concern functions including admission control for new radio access bearers and radio bearers, and translating said rules into a form executable by a plurality of controller configured to perform policy based radio resource management. The set of rules configure multiple radio technologies corresponding to the information model as used by the multiple radio technologies.

As will be discussed below, Naveh, Blight, and Sundqvist fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

Naveh describes a method and apparatus for policy-based management of quality of service treatments of network data traffic flows by integrating policies with application programs are described. The method involves creating one or more mappings, each mapping representing an abstract policy and associating a pre-determined network quality of service with a traffic flow type of the flow of information and with an application program. (See Naveh at column 5, lines 25-30). The method also includes determining one or more processing policies, which include creating and storing one or more policy statements in a repository. (See Naveh at column 6, lines 9-15). Each policy statement is represented by a plurality of nodes that represent a condition of one of the traffic flows, an operator, an operand, and an action comprising one of the quality of service treatments.

Blight describes a QoS interworking in IP management, in light of scalability analysis of large-scale interworking of policy based networking (PBNs). (See Blight at Abstract).

Sundqvist describes a method and apparatus for reserving resources in a wireline network from a wireless network. A service client makes a resource reservation request to a service broker. Using information provided by a geographical domain server, the service broker contacts a radio bearer broker and a bandwidth broker to determine the

resources available in a particular wireless network. Based upon the information provided by the bandwidth broker and the radio bearer broker, the service client can reserve the requested resources. (See Sundqvist at Abstract).

Applicants respectfully submit that Naveh, Blight, and Sundqvist, whether considered individually or in combination, fail to disclose, teach, or suggest, all of the elements of the present claims. For example, the combination of Naveh, Blight, and Sundqvist fails to disclose, teach, or suggest, at least, “wherein said set of rules configure multiple radio technologies corresponding to the information model as used by the multiple radio technologies,” as recited in independent claim 1, and similarly recited in independent claims 17-18, 21-22, and 26.

Navah relates to computer networks and the methods for policy-based management of quality of service treatments of network data traffic flows by integration policies with application programs. (See Navah at col. 1, lines 19-23). Specifically, Navah describes an enterprise software application program (herein “application”) 608 that runs on a server computer. A repository 600 stores policies that are associated with applications. The application 608 contacts the repository 600 and declares one or more parameters that the application will use for classification of Quality of Service (herein “QOS”) of network devices that handle traffic flows generated by the application. A policy server 604, which is coupled to one or more network devices 620, configures the network devices 620 to implement the network services and to correctly respond to signaling from the application 608. (See Navah at col. 8, line 63 – col. 9, line 62).

Navah does not relate to multi-radio access mobile networks. Instead, Navah relates to transport layer level QoS. Specifically, Navah describes that a process executing at a network entity may generate hundreds or thousands of traffic flows that are transmitted across a network, where a traffic flow is a set of packets that correspond to a particular task. Each traffic flow may require its own separate QoS. (See Navah at col. 3, line 64 – col. 4, line 13). The system of Navah creates one or more policies and associates a pre-determined network quality of service with a traffic flow type of the flow of information, and with an application program. (See Navah at col. 5, lines 26-30). Navah fails to mention anything about managing the QoS of a radio access network, let alone multi-radio access networks.

In contrast, in an embodiment of the invention, a method and system is provided for managing the QoS in multi-radio access networks. (See Specification at page 2, line 18 – page 3, line 19). Specifically, in an embodiment of the invention, a network administrator is able to configure a set of rules independent of specific radio access technology. In the embodiment, the high-level policies are translated into radio access network-specific policies, which are understandable and executable by the radio resource management functions. Moreover, those network specific policies are applicable to multi-radio access networks. In a non-limiting example, the network-specific policies may be applicable to radio resource management functions of both a GERAN network and a UTRAN network. (See Specification at page 12, lines 12-24). Thus, according to an

embodiment of the invention, the method and system is able to configure multiple radio technologies with one set of rules. (See Specification at page 13, lines 26-30).

Furthermore, Blight and Sundqvist do not cure the deficiencies of Naveh. Blight merely describes using a standard such as COPS or Diameter to allow a policy server to communicate policy information stored in a directory to devices in the network. (See Blight at page 817, lines 21-26). Blight fails to disclose, or suggest, forming a set of policy rules which configure multiple radio technologies. Sundqvist merely describes a WLAN network which includes a radio bearer broker, and a bandwidth broker. The radio bearer broker performs resource management and admission control for each associated access node or access network. The bandwidth broker manages resources and performs admission control in its routing domain. (See Sundqvist at paragraph 0038). Sundqvist also fails to disclose, or suggest, forming a set of policy rules which configure multiple radio technologies.

Therefore, for at least the reasons discussed above, the combination of Naveh, Blight, and Sundqvist fails to disclose, teach, or suggest, all of the elements of independent claims 1, 17-18, 21-22, and 26. For the reasons stated above, Applicants respectfully request that this rejection be withdrawn.

Claims 2 and 4 depend upon independent claim 1. Thus, Applicants respectfully submit that claims 2 and 4 should be allowed for at least their dependence upon independent claim 1, and for the specific elements recited therein.

The Office Action rejected claims 3 and 5 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Naveh, Blight, and Sundqvist, and further in view of U.S. Patent No. 7,082,102 of Wright (“Wright”). The Office Action took the position that the combination of Naveh, Blight, and Sundqvist discloses all the elements of the claims with the exception of certain elements. The Office Action then cited Wright as allegedly curing the deficiencies of Naveh, Blight, and Sundqvist. Applicants respectfully submit that said claims recite allowable subject matter for at least the following reasons.

Naveh, Blight, and Sundqvist are described above. Wright generally describes systems and methods for policy-based management of a multiprotocol label switching network. In Wright, a system includes a policy-based network administration system, and the policy-based network administration system includes a plurality of policies. The system also includes an MPLS network, which is coupled to the policy-based network administration system. (See Wright at Abstract).

Claims 3 and 5 depend upon independent claim 1. As discussed above, the combination of Naveh, Blight, and Sundqvist does not disclose, teach, or suggest all of the elements of independent claim 1. Furthermore, Wright does not cure the deficiencies in Naveh, Blight, and Sundqvist, as Wright also does not disclose, teach, or suggest, at least, “wherein said set of rules configure multiple radio technologies corresponding to the information model as used by the multiple radio technologies,” as recited in independent claim 1. Thus, the combination of Naveh, Blight, Sundqvist, and Wright

does not disclose, teach, or suggest all of the elements of claims 3 and 5. Additionally, claims 3 and 5 should be allowed for at least their dependence upon independent claim 1, and for the specific elements recited therein.

The Office Action rejected claims 10, 12-14, 16, and 25 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Naveh in view of Sundqvist. The Office Action took the position that Naveh discloses all the elements of the claims with the exception of certain elements. The Office Action then cited Sundqvist as allegedly curing the deficiencies of Naveh. Applicants respectfully submit that said claims recite allowable subject matter for at least the following reasons.

Claim 10, upon which claims 11-12 are dependent, recites an apparatus, which includes a controller configured to administrate multi-radio access mobile networks to control a behavior of said multi-radio access mobile networks, where an information model is implemented in said controller which describes different Quality-of-Service mechanisms including attributes which are involved in each function under policy to represent manageable parameters of specific network implementations, wherein functions under policy include admission control for new radio access bearers and radio bearers. The apparatus further includes a processor configured to form a set of policy rules based on said information model, wherein the set of rules defines actions to be executed in dependency of an occurrence of conditions. The set of rules configure multiple radio technologies corresponding to the information model as used by the multiple radio technologies.

Claim 13 recites an apparatus, which includes administrating means for administrating multi radio access mobile networks for controlling a behavior of said multi radio access mobile networks, and implementing means for implementing an information model which describes different Quality-of-Service mechanisms including attributes which are involved in each function under policy to represent manageable parameters of specific network implementations, wherein functions under policy include admission control for new radio access bearers and radio bearers. The method further includes processing means for forming a set of policy rules based on said information model, wherein said set of rules defines actions to be executed in dependency of an occurrence of conditions. The set of rules configure multiple radio technologies corresponding to the information model as used by the multiple radio technologies.

Claim 14, upon which claims 15-16 are dependent, recites a method, which includes administrating multi radio access mobile networks by a controller configured to control a behavior of said multi-radio access mobile networks, and implementing an information model which describes different Quality-of-Service mechanisms including attributes which are involved in each function under policy to represent manageable parameters of specific network implementations, wherein functions under policy include admission control for new radio access bearers and radio bearers. The method further includes forming a set of policy rules using said information model to define actions to be executed in dependency of an occurrence of conditions. The set of rules configure

multiple radio technologies corresponding to the information model as used by the multiple radio technologies.

Claim 25 recites a computer program embodied on a computer readable medium, the computer program being configured to control a processor to perform, administrating multi radio access mobile networks to control a behavior of said multi-radio access mobile networks, and implementing an information model which describes different Quality-of-Service mechanisms including attributes which are involved in each function under policy to represent manageable parameters of specific network implementations, wherein functions under policy include admission control for new radio access bearers and radio bearers. The computer program is further configured to perform forming a set of policy rules using said information model to define actions to be executed in dependency of an occurrence of conditions. The set of rules configure multiple radio technologies corresponding to the information model as used by the multiple radio technologies.

As will be discussed below, the combination of Naveh and Sundqvist fails to disclose or suggest all of the elements of the claims, and therefore fails to provide the features discussed above.

Naveh and Sundqvist are described above. Applicants respectfully submit that Naveh, and Sundqvist, whether considered individually or in combination, fail to disclose, teach, or suggest, all of the elements of the present claims. For example, the combination of Naveh and Sundqvist fails to disclose, teach, or suggest, at least,

“wherein the set of rules configure multiple radio technologies corresponding to the information model as used by the multiple radio technologies,” as recited in independent claim 10, and similarly recited in independent claims 13-14 and 25.

While each of the claims have their own scope, Applicants respectfully submit that Naveh and Sundqvist, whether considered individually or in combination, fail to disclose, or suggest, the aforementioned limitations for similar reasons as to why the combination of Naveh and Sundqvist fails to disclose “wherein said set of rules configure multiple radio technologies corresponding to the information model as used by the multiple radio technologies,” as recited in independent claim 1, as discussed above.

Therefore, for at least the reasons discussed above, the combination of Naveh and Sundqvist fails to disclose, teach, or suggest, all of the elements of independent claims 10, 13-14, and 25. For the reasons stated above, Applicants respectfully request that this rejection be withdrawn.

Claim 12 depends upon independent claim 10. Claim 16 depends upon independent claim 14. Thus, Applicants respectfully submit that claims 12 and 16 should be allowed for at least their dependence upon independent claims 10 and 14, respectively, and for the specific elements recited therein.

The Office Action rejected claims 11, 19-20, and 23-24 under 35 U.S.C. §103(a) as being allegedly unpatentable as obvious over Naveh and Sundqvist, as applied to claims 10, 18, and 22, and further in view of Wright. The Office Action took the position that the combination of Naveh and Sundqvist discloses all the elements of the claims with

the exception of certain elements. The Office Action then cited Wright as allegedly curing the deficiencies of Naveh and Sundqvist. Applicants respectfully submit that said claims recite allowable subject matter for at least the following reasons.

Naveh, Sundqvist, and Wright are discussed above. Claim 11 depends upon independent claim 10, claims 19-20 depend upon independent claim 18, and claims 23-24 depend upon independent claim 22. As discussed above, the combination of Naveh and Sundqvist does not disclose, teach, or suggest all of the elements of independent claims 10, 18, and 22. Furthermore, Wright does not cure the deficiencies in Naveh and Sundqvist, as Wright also does not disclose, teach, or suggest, at least, “wherein the set of rules configure multiple radio technologies corresponding to the information model as used by the multiple radio technologies,” as recited in independent claim 10, and similarly recited in independent claims 18 and 20.

Thus, the combination of Naveh, Sundqvist, and Wright does not disclose, teach, or suggest all of the elements of claims 11, 19-20, and 23-24. Additionally, claims 11, 19-20, and 23-24 should be allowed for at least their dependence upon independent claims 10, 18, and 22, respectively, and for the specific elements recited therein.

For the reasons set forth above, it is respectfully submitted that each of claims 1-6 and 10-26 recites subject matter that is neither disclosed nor suggested in the cited art. It is, therefore, respectfully requested that all of claims 1-6 and 10-26 be allowed, and that this application be passed to issuance.

If for any reason the Examiner determines that the application is not now in condition for allowance, it is respectfully requested that the Examiner contact, by telephone, Applicants' undersigned representative at the indicated telephone number to arrange for an interview to expedite the disposition of this application.

In the event this paper is not being timely filed, Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension together with any additional fees may be charged to Counsel's Deposit Account 50-2222.

Respectfully submitted,



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